

Luca Bedogni, PhD

Work Experience

November 2022 - current, Department of Physics, Informatics and Mathematics, University of Modena and Reggio Emilia, Italy - **Associate Professor**

November 2019 - November 2022, Department of Physics, Informatics and Mathematics, University of Modena and Reggio Emilia, Italy - **Tenured Assistant Professor**

July 2018 - November 2019, Department of Computer Science and Engineering, University of Bologna, Italy - **Assistant Professor**

February 2015 - June 2018, Department of Computer Science and Engineering, University of Bologna, Italy - **Research Fellow**

Research visits

2019 - University of California, Irvine. Host: Prof. Marco Levorato

2017 - University of California, Irvine. Host: Prof. Marco Levorato

2015 - Queen Mary University London, UK. Host: Prof. Yue Gao

2013 - RWTH Aachen university, Germany. Host: Prof. Petri Mähönen

Education

Department of Computer Science, University of Bologna 2012-2015 - **PhD in Computer Science**

Department of Computer Science, University of Bologna 2008-2011 - **M.Sc. in computer science**

Department of Computer Science, University of Bologna 2004-2008 - **B.Sc. in computer science**

Main Research activity

Data Science and Data Analytics

Mobile computing and privacy

Context Aware Mobile Application and Indoor Localization

Teaching activities

2023 - now: Professor, Mobile Programming, University of Modena and Reggio Emilia

2020 - now: Professor, Computer Programming, University of Modena and Reggio Emilia

2020 - now: Professor, IoT systems, University of Modena and Reggio Emilia

2019: Professor, Mobile Applications Laboratory (Android) - Department of Computer Science, University of Bologna

2019: Professor, Computer Networks - Department of Computer Science, University of Bologna

2018: Adjunct Professor, Mobile applications laboratory (Android), Department of Computer Science, University of Bologna.

2017 - 2018: Teacher Assistant (TA), Algorithms and Data Structures, Department of Computer Science, University of Bologna.

2015: Teacher Assistant (TA), Programming Languages, Department of Computer Science, University of Bologna.

2012 - 2017: Teacher Assistant (TA) Mobile applications laboratory (Android), Department of Computer Science, University of Bologna.

Participation to research projects

2023-now [**Horizon Europe**] Digital intelligent assistants and human-AI collaboration for smart manufacturing. (**Research Team Participant**)

2019-2022 [**Private Grant**] Predictive maintenance on industrial plants, grant by DIGIBELT Ltd. (**Principal Investigator**)

2019 [**Private Grant**] Industry 4.0, grant by FAVA SpA (**Principal Investigator**)

2019 [**Private Grant**] Smart factory, grant by DIGIBELT Ltd. (**Principal Investigator**)

2015-2017 [**Private Grant**] TVWS exploitation in Indoor Environments, Joint Project with Telecom Italia SpA. (**Co-Principal Investigator**)

2012-2015 [**PRIN**] Italian research project, STEM-NET, Staminal devices for self-adapting Wireless Networks. (**Research Team Participant**)

2011-2016 [**EU-FP7**] Project Internet of Energy (IoE), to develop new remote services for the electrical mobility. (**Research Team Participant**)

2013-2017 [**Artemis**] Project Arrowhead, to develop interfaces for the electric mobility. (**Research Team Participant**)

2015-2016 [**EIT-ICT**] Labs Project, to develop pre-deployment tools for the electric mobility. (**Research Team Participant**)

Publications

More than 80 referred academic journals and International conferences. Full list can be found at <https://scholar.google.com/citations?user=NOocPOEAAAAJ&hl=it>

Professional Service

Associate Editor 2022 - now, IEEE Access

Associate Editor 2019 - now, Springer PPNA

Academic Editor 2017 - now, Hindawi Journal on Mobile Information Systems

Co-Guest Editor 2019, Elsevier's PMC, Special Issue on "Crowdsensed Big Data for IoT".

TPC Co-Chair 2018 - 2020, International Workshop on Information Quality and Quality of Service for Pervasive Computing (IQ2S 2018), in conjunction with IEEE Percom

PC Co-Chair 2015 - 2017, International Workshop on Emerging COgnitive Radio Applications and aLgorithms 2015-2017, in conjunction with IEEE WoWMoM.

Technical Program Committee Member for numerous IEEE/ACM/IFIP conferences.

Awards

Won a total of 3 best paper awards: "DySCO: A Dynamic Spectrum and Contention Control Framework for Enhanced Broadcast Communication in Vehicular Networks" (MobiWAC 2012), "Re-establishing Network Connectivity in Post-Disaster Scenarios Through Mobile Cognitive Radio Networks" (Med-Hoc-net 2013), "A Collision-Free Contention Protocol Based on Pulse/Tone Signals" (CANDAR 2014)

Publications

- 2023 - Privacy preservation for spatio-temporal data in Mobile Crowdsensing scenarios Montori, Federico; Bedogni, Luca
- 2022 - A Hierarchical Architectural Model for IoT End-User Service Composition Montori, F.; Armandi, V.; Bedogni, L.
- 2022 - A Web Of Things Context-Aware IoT System leveraging Q-learning Bedogni, L.; Poggi, F.
- 2022 - Does the venue of scientific conferences leverage their impact? A large scale study on Computer Science conferences Bedogni, L.; Cabri, G.; Martoglia, R.; Poggi, F.
- 2022 - Enabling Green Crowdsourced Social Delivery Networks in Urban Communities Choi, K.; Bedogni, L.; Levorato, M.
- 2022 - Location Contact Tracing: Penetration, Privacy, Position, and Performance Bedogni, L.; Montori, F.; Salim, F.
- 2022 - SIC-EDGE: Semantic Iterative ECG Compression for Edge-Assisted Wearable Systems Amiri, D.; Takalo-Mattila, J.; Bedogni, L.; Levorato, M.; Dutt, N.
- 2021 - Anomaly Detection and Classification in Predictive Maintenance Tasks with Zero Initial Training Morselli, Filippo; Bedogni, Luca; Mirani, Umberto; Fantoni, Michele; Galasso, Simone
- 2021 - IoT End-User Service Composition via a Visual Programming Interface Montori, F.; Armandi, V.; Bedogni, L.
- 2021 - Modelling Memory for Individual Re-identification in Decentralised Mobile Contact Tracing Applications Bedogni, Luca; Rumi, Shakila Khan; Salim, Flora D.
- 2020 - A Privacy Preserving Framework for Rewarding Users in Opportunistic Mobile Crowdsensing Montori, Federico; Bedogni, Luca
- 2020 - Delivering IoT Smart Services through Collective Awareness, Mobile Crowdsensing and Open Data Montori, Federico; Bedogni, Luca; Iselli, Gianluca; Bononi, Luciano
- 2020 - Identification of Social Aspects by Means of Inertial Sensor Data Bedogni, Luca; Cabri, Giacomo
- 2020 - Performance evaluation of hybrid crowdsensing systems with stateful CrowdSenSim 2.0 simulator Montori, Federico; Bedogni, Luca; Fiandrino, Claudio; Capponi, Andrea; Bononi, Luciano
- 2020 - Special issue on "Crowd-sensed Big Data for Internet of Things Services" Bedogni, L.; Kanhere, S.; Wu, H.; Bononi, L.
- 2020 - Towards Green Crowdsourced Social Delivery Networks: A Feasibility Study Choi, K.; Bedogni, L.; Levorato, M.
- 2020 - Welcome from the IoTSenCity 2020 Workshop Organizers Montori, F.; Bedogni, L.; Jayaraman, P. P.
- 2019 - CrowdSensim 2.0: A stateful simulation platform for mobile crowdsensing in smart cities Montori, F.; Cortesi, E.; Bedogni, L.; Capponi, A.; Fiandrino, C.; Bononi, L.
- 2019 - Dynamic spectrum access for machine to machine communications: Opportunities, standards, and open issues [Capitolo/Saggio] Bedogni, L.; Di Felice, M.; Bononi, L.
- 2019 - Permission-free Keylogging through Touch Events Eavesdropping on Mobile Devices Bedogni, L.; Alcaras, A.; Bononi, L.
- 2019 - Reinforcement learning-based spectrum management for cognitive radio networks: A literature review and case study [Capitolo/Saggio] Di Felice, M.; Bedogni, L.; Bononi, L.
- 2019 - Texting and driving recognition exploiting subsequent turns leveraging smartphone sensors Bedogni, L.; Bujor, O.; Levorato, M.
- 2019 - Vehicular Route Identification Using Mobile Devices Integrated Sensors Bedogni, L.; Bononi, L.
- 2018 - A Collaborative Internet of Things Architecture for Smart Cities and Environmental Monitoring Montori, Federico; Bedogni, Luca; Bononi, Luciano
- 2018 - Custom Dual Transportation Mode Detection By Smartphone Devices Exploiting Sensor Diversity Carpineti, Claudia; Lomonaco, Vincenzo; Bedogni, Luca; Felice Marco, Di; Bononi, Luciano
- 2018 - Dual-mode wake-up nodes for IoT monitoring applications: Measurements and algorithms Bedogni, Luca; Bononi, Luciano; Canegallo, Roberto; Carbone, Fabio; Di Felice, Marco; Scarselli Eleonora, Franchi; Montori, Federico; Perilli, Luca; Cinotti Tullio, Salmon; Trotta, Angelo
- 2018 - Machine-to-machine wireless communication technologies for the Internet of Things: Taxonomy, comparison and open issues Montori, Federico; Bedogni, Luca; Di Felice, Marco; Bononi, Luciano
- 2018 - PerCom Workshops 2018 Committees Bedogni, L.; Restuccia, F.

2018 - Rising User Privacy Against Predictive Context Awareness Through Adversarial Information Injection Bedogni, Luca; Levorato, Marco

2018 - Temporal Reachability in Vehicular Networks Bedogni, Luca; Fiore, Marco; Glacet, Christian

2018 - WiFi Meets Barometer: Smartphone-Based 3D Indoor Positioning Method Bisio, Igor; Sciarrone, Andrea; Bedogni, Luca; Bononi, Luciano

2017 - Achieving IoT Interoperability through a Service Oriented In-Home Appliance Montori, Federico; Bedogni, Luca; Morselli, Filippo; Bononi, Luciano

2017 - Automotive Communications in LTE: a Simulation-based Performance Study Montori, F.; Gramaglia, M.; Bedogni, L.; Fiore, M.; Sheikh, F.; Bononi, L.; Vesco, A.

2017 - Distributed data collection control in opportunistic mobile crowdsensing Montori, Federico; Bedogni, Luca; Bononi, Luciano

2017 - Dynamic Adaptive Video Streaming on Heterogeneous TVWS and Wi-Fi Networks Bedogni, Luca; Trotta, Angelo; Di Felice, Marco; Gao, Yue; Zhang, Xingjian; Zhang, Qianyun; Malabocchia, Fabio; Bononi, Luciano

2017 - Dynamic Segment Size Selection in HTTP Based Adaptive Video Streaming Bedogni, Luca; Di Felice, Marco; Bononi, Luciano

2017 - Indoor Use of Gray and White Spaces: Another Look at Wireless Indoor Communication Bedogni, Luca; Malabocchia, Fabio; Di Felice, Marco; Bononi, Luciano

2017 - Is WiFi suitable for energy efficient IoT deployments? A performance study Montori, Federico; Contigiani, Riccardo; Bedogni, Luca

2017 - Message from the Chairs Bedogni, L.; Cheong, S. T.; Qin, Z.

2017 - Performance assessment and feasibility analysis of IEEE 802.15.4m wireless sensor networks in TV grayspaces Bedogni, Luca; Achtzehn, Andreas; Petrova, Marina; Mähönen, Petri; Bononi, Luciano

2016 - A Route Planner Service with Recharging Reservation: Electric Itinerary with a Click Bedogni, Luca; Bononi, Luciano; Di Felice, Marco; D'Elia, Alfredo; Salmon Cinotti, Tullio

2016 - A self-adapting algorithm based on atmospheric pressure to localize indoor devices Bedogni, Luca; Franzoso, Fabio; Bononi, Luciano

2016 - An Integrated Simulation Framework to Model Electric Vehicles Operations and Services Bedogni, Luca; Bononi, Luciano; Di Felice, Marco; D'Elia, Alfredo; Mock, Randolph; Morandi, Francesco; Rondelli, Simone; Salmon Cinotti, Tullio; Vergari, Fabio

2016 - An integrated traffic and power grid simulator enabling the assessment of e-mobility impact on the grid: a tool for the implementation of the smart grid/city concept Bedogni, Luca; Bononi, Luciano; Borghetti, Alberto; Bottura, Riccardo; D'Elia, Alfredo; Di Felice, Marco; Montori, Federico; Napolitano, Fabio; Nucci Carlo, Alberto; Salmon Cinotti, Tullio; Viola, Fabio

2016 - Context-Aware Android Applications through Transportation Mode Detection Techniques Bedogni, Luca; Di Felice, Marco; Bononi, Luciano

2016 - Enhancing TV White-Spaces database with Unmanned Aerial Scanning Vehicles (UASVs) Trotta, Angelo; Bedogni, Luca; Di Felice, Marco; Bononi, Luciano; Natalizio, Enrico

2016 - Estimating urban mobility with open data: A case study in Bologna Caiati, Valeria; Bedogni, Luca; Bononi, Luciano; Ferrero, Francesco; Fiore, Marco; Vesco, Andrea

2016 - From brown coal to a rural energy landscape — Orchestration of storage and electric mobility to foster decentralized energy management D'Elia, Alfredo; Di Felice, Marco; Bedogni, Luca; Duckheim, Mathias; Mock, Randolph; Salmon Cinotti, Tullio

2016 - On the integration of heterogeneous data sources for the collaborative Internet of Things Montori, Federico; Bedogni, Luca; Bononi, Luciano

2016 - SenSquare: A mobile crowdsensing architecture for smart cities Montori, Federico; Bedogni, Luca; Di Chiappari, Alain; Bononi, Luciano

2016 - The Emergency Direct Mobile App: Safety Message Dissemination over a Multi-Group Network of Smartphones using Wi-Fi Direct Di Felice, Marco; Bedogni, Luca; Bononi, Luciano

2016 - Workshop message: CORAL 2016 Di Felice, M.; Gao, Y. F.; Bedogni, L.; Akan, O.; Altintas, O.; Au, E.; Bansal, G.; Bayhan, S.; Caetano, M. F.; Canberk, B.; Cavalcanti, D.; De, S.; Dias, K.; Feng, Z.; Fiore, M.

2015 - Connectivity recovery in post-disaster scenarios through Cognitive Radio swarms Trotta, Angelo; Di Felice, Marco; Bedogni, Luca; Bononi, Luciano; Panzieri, Fabio

2015 - Impact of Interdisciplinary Research on Planning, Running, and Managing Electromobility as a Smart Grid Extension D'Elia, Alfredo; Viola, Fabio; Montori, Federico; Di Felice, Marco; Bedogni, Luca; Bononi, Luciano; Borghetti, Alberto; Azzoni, Paolo; Bellavista, Paolo; Tarchi, Daniele; Mock, Randolph; Salmon Cinotti, Tullio

2015 - Integration of traffic and grid simulator for the analysis of e-mobility impact on power distribution networks Bedogni, L.; Bononi, L.; Borghetti, A.; Bottura, R.; D'Elia, A.; Salmon Cinotti, T.

2015 - On 3-dimensional spectrum sharing for TV white and Gray Space networks Bedogni, Luca; Trotta, Angelo; Di Felice, Marco

2015 - Park Here! a smart parking system based on smartphones' embedded sensors and short range Communication Technologies Salpietro, Rosario; Bedogni, Luca; Di Felice, Marco; Bononi, Luciano

2015 - STEM-NET: How to deploy a self-organizing network of mobile end-user devices for emergency communication Aloï, G.; Bedogni, L.; Bononi, L.; Briante, O.; Di Felice, M.; Loscrì, V.; Pace, P.; Panzieri, F.; Ruggeri, G.; Trotta, A.

2015 - The Bologna ringway dataset: Improving road network conversion in SUMO and validating urban mobility via navigation services Bedogni, Luca; Gramaglia, Marco; Vesco, Andrea; Fiore, Marco; Härrï, Jérôme; Ferrero, Francesco

2015 - WhatIF Application: Moving Electrically without an Electric Vehicle Bedogni, Luca; Bononi, Luciano; Di Felice, Marco; D'Elia, Alfredo; Salmon Cinotti, Tullio

2015 - Workshop program (CORAL 2015) Felice, M. D.; Gao, Y. F.; Bedogni, L.

2014 - A collision-free contention protocol based on pulse/tone signals Caetano Marcos, F.; Bordim Jacir, L.; Bedogni, Luca; Bononi, Luciano

2014 - A mobile application to assist electric vehicles' drivers with charging services Bedogni, Luca; Bononi, Luciano; D'Elia, Alfredo; Di Felice, Marco; Rondelli, Simone; Salmon Cinotti, Tullio

2014 - Cognitive modulation and coding scheme adaptation for 802.11n and 802.11af networks Bedogni, Luca; Di Felice, Marco; Malabocchia, Fabio; Bononi, Luciano

2014 - Distributed mobile Femto-Databases for cognitive access to TV white spaces Bedogni, Luca; Di Felice, Marco; Trotta, Angelo; Bononi, Luciano

2014 - Driving without anxiety: A route planner service with range prediction for the electric vehicles Bedogni, Luca; Bononi, Luciano; D'Elia, Alfredo; Di Felice, Marco; Di Nicola, Marco; Salmon Cinotti, Tullio

2014 - Indoor communication over TV gray spaces based on spectrum measurements Bedogni, Luca; Di Felice, Marco; Malabocchia, Fabio; Bononi, Luciano

2014 - STEM-Net: an evolutionary network architecture for smart and sustainable cities Aloï, Gianluca; Bedogni, Luca; Di Felice, Marco; Loscrì, Valeria; Molinaro, Antonella; Natalizio, Enrico; Pace, Pasquale; Ruggeri, Giuseppe; Trotta, Angelo; Roberto Zema, Nicola

2014 - Self-organizing aerial mesh networks for emergency communication Di Felice, Marco; Trotta, Angelo; Bedogni, Luca; Chowdhury Kaushik, Roy; Bononi, Luciano

2014 - Smart meters with TV gray spaces connectivity: A feasibility study for two reference network topologies Bedogni, Luca; Achtzehn, Andreas; Petrova, Marina; Mahonen, Petri

2013 - An Interoperable Architecture for Mobile Smart Services over the Internet of Energy Bedogni, L.; Bononi, L.; Di Felice, M.; D'Elia, A.; Mock, R.; Montori, F.; Morandi, F.; Roffia, L.; Rondelli, S.; Salmon Cinotti, T.; Vergari, F.

2013 - Group Communication on Highways: An Evaluation Study of Geocast Protocols and Applications Di Felice, M.; Bedogni, L.; Bononi, L.

2013 - Internet of Things: a process calculus approach Lanese, Ivan; Bedogni, Luca; Di Felice, Marco

2013 - Machine-to-Machine Communication over TV White Spaces for Smart Metering Applications Bedogni, L.; Trotta, A.; Di Felice, M.; Bononi, L.

2013 - Re-establishing Network Connectivity in Post-Disaster Scenarios Through Mobile Cognitive Radio Networks Trotta, A.; Di Felice, M.; Bedogni, L.; Bononi, L.

2013 - STEM-Mesh: Self-Organizing Mobile Cognitive Radio Network for Disaster Recovery Operations Di Felice, M.; Trotta, A.; Bedogni, L.; Bononi, L.; Panzieri, F.; Ruggeri, G.; Loscrì, V.; Pace, P.

2013 - Smartphones Like Stem Cells: Cooperation and Evolution for Emergency Communication in Post-Disaster Scenarios Di Felice, M.; Bedogni, L.; Trotta, A.; Bononi, L.; Panzieri, F.; Ruggeri, G.; Aloï, G.; Loscrì, V.; Pace, P.

2012 - By Train or By Car? Detecting the User's Motion Type through Smartphone Sensors Data Bedogni, L; Di Felice, M; Bononi, L
2012 - DySCO: A DYnamic Spectrum and CONTENTion Control Framework for Enhanced Broadcast Communication in Vehicular Networks Di Felice, M; Bedogni, L; Bononi, L
2011 - Dynamic backbone for fast information delivery in vehicular ad hoc networks: an evaluation study Di Felice, M.; Bedogni, L.; Bononi, L.